

Electromagnetic Measures

<u>Wavelength</u> (m)	<u>Prefix</u> (Hz)	<u>Cardinal</u> (Hz)	<u>Comparisons</u> 1 Wavelength equals:	<u>Vibrations / sec</u> (Hz)
10^{32} m	Yocto-	30^{-24}		0.000 000 000 000 000 000 000 003
10^{30} m	Zepto-	30^{-21}		0.000 000 000 000 000 000 000 03
10^{27} m				0.000 000 000 000 000 000 000 3
100 Ym	Atto-	30^{-18}	Size of observable Universe	0.000 000 000 000 000 003
10 Ym			1 gigaparsec	0.000 000 000 000 000 03
1 Yotta- (10^{24} m)				0.000 000 000 000 000 3
100 Zm	Femto-	30^{-15}		0.000 000 000 000 003
10 Zm			Distance to Andromeda	0.000 000 000 000 03
1 Zetta- (10^{21} m)				0.000 000 000 000 3
100 Em	Pico-	30^{-12}		0.000 000 000 003
10 Em			200 Light-years	0.000 000 000 03
1 Exa- (10^{19} m)				0.000 000 000 3
100 Pm	Nano-	30^{-9}		0.000 000 003
10 Pm			1 Light-year	0.000 000 03
1 Peta- (10^{15} m)				0.000 000 3
100 Tm	Micro-	30^{-6}	Orbit of Pluto	0.000 003
10 Tm				0.000 03
1 Tera-			1 Light-hour	0.000 3
100 Gm	Milli-	30^{-3}		0.003
10 Gm	Centi-	30^{-2}		0.03
1 Giga-	Deci-	30^{-1}		0.3
100 000 km	HERTZ	30^0	Size of Saturn	3 Threshold - Electricity/Magnetism
10 000 km				ELF
1 000 km	Hekto-	30^2	Van Allen Belt	SLF
100 km	Kilo-	30^3	Atmosphere	ULF
10 km				VLF
1 km			Mountains	LF
100 meter	Mega-	30^6		MF
10 m			House	HF
1 m				VHF
10 centi-	Giga-	30^9	Width of hand	UHF
1 cm			Fingernail	SHF
1 mm				EHF
100 micro-	Tera-	30^{12}		THF/FIR
10 µm			Pollen	MIR
1 µm			Cells	NIR
100 nano-	Peta-	30^{15}		Visible Light
10 nm			Molecules	EUV
1 nm				SX
100 pico-	Exa-	30^{18}	Atoms	HX
10 pm				
1 pm			Atomic Nuclei	Gamma Rays
100 femto-	Zetta-	30^{21}		γ
10 fm			Proton	
1 fm				Cosmic Rays > Supernovae
100 atto-	Yotta-	30^{24}		

Abbreviations:

AM	Amplitude Modulation
FM	Frequency Modulation
IR	Infrared
SLF	Super Low Frequency
ULF	Ultra Low Frequency
VLF	Very Low Frequency
LF	Low Frequency
MF	Medium Frequency
HF	High Frequency
VHF	Very High Frequency
UHF	Ultra High Frequency
SHF	Super High Frequency
EHF	Extremely High Frequency
THF	Tera Hertz Frequency / Tremendously High Frequency
FIR	Far Infrared
NIR	Near Infrared
EUV	Extreme Ultraviolet
SX	Soft X-Ray
HX	Hard X-Ray
γ	"Gamma" - The third letter of the Greek alphabet.